DOCUMENT RESUME

ED 199 499 CE 028 310

TITLE Bilingual Skills Training Program. Barbering/Cosmetology. Module 3.0: Cells.
INSTITUTION Northern New Mexico Community Coll., El Rito.
PUB DATE [80]
NOTE 55p.; For related documents see CE 028 291.

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Adult Vocational Education; *Barbers; Behavioral Objectives; *Bilingual Education; Biology; *Cosmetologists; Cosmetology; *Cytology; Individualized Instruction; Learning Activities; Learning Modules; Postsecondary Education; Pretests Posttests; Second Language Learning; Service Occupations; Spanish; Trade and Industrial Education; *Vocabulary Development
IDENTIFIERS *Cells (Biology)

ABSTRACT

This module on cells is the third of ten (CE 028 308-318) in the barbering/cosmetology course of a bilingual skills training program. (A Vocabulary Development Workbook for modules 6-10 is available as CE 028 313.) The course is designed to furnish theoretical and laboratory experience. Module objectives are for students to develop trade-related Spanish/English vocabulary, to define and describe cells, to draw the structure of a cell and explain each part and its function; to describe cell reproduction, and to define and explain how tissues and organs are formed. Contents include list of module objectives; pretest; five sections on (1) definition of a cell; (2) function, shapes, and sizes of cells; (3) basic structure of a cell. (4) growth and reproduction of a cell; and (5) tissues and organs formed by cells; posttest; and English/Spanish vocabulary list. Each section is organized into this format: instructions, vocabulary, and concepts (statements or questions to direct reading) presented in English and Spanish; readings; and worksheets to evaluate comprehension of the trade-related reading material. (Readings in modules 1-5 are in both English and Spanish.) Worksheets also cover these areas: vocabulary, definitions, word attack skills, writing skills, spelling, and application of terminology to the trade area. (YLB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED199469

BILINGUAL SKILLS TRAINING PROGRAM

BARBERING/COSMETOLOGY

MODULE 3.0

C E L L S

CE 023 310

U S DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

P. Felix

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

NORTHERN NEW MEXICO COMMUNITY COLLEGE
EL RITO, NEW MEXICO 87530

I. PURPOSE

This module is to:

1. Assist students in developing trade-related vocabulary.
2. Facilitate the learning of the trade through reading information sheets, vocabulary lists and language exercises.
3. Provide student with individual check lists for individual progress.

II. INRODUCTION

Cosmetology and Barbering require the student to follow a defined theoretical course of study as well as acquire practical knowledge in the respective trade. Due to the limited amount of time allowed for theory and the difficulty of the technical vocabulary found in the reading, the student often needs additional help in this area. Students in above trades are required to pass the State Board Examination before practicing their trade. To succeed in passing this exam and to be better equipped for the job, the student must be able to function in the oral and written communication skills and utilize the technical vocabulary of their trade. This module is structured to provide for individual needs of the students so that they may progress at their pace in the academic or theoretical area. A simple coding system is utilized to facilitate the student use.

III. ACTIVITIES

Because each module is geared for individualized instruction it is important to assess the individual needs of the students. A pre-test is administered to students before they begin working with a module. Instructions are given orally in Spanish and English.

Instructions, vocabulary and concepts in each module are written in Spanish and English so as to explain the purpose of each reading. There is a reading for each objective presented in the module. The reading is referred to as an information sheet. This sheet is designed to provide the student with reading material incorporating the technical vocabulary that is needed in the trade skill area. The gradation of reading is from simple to more complex. Thus the information sheet facilitates the learning process in the theoretical course of study. Each information sheet is followed by a series of diversified work sheets directly checking for comprehension of the reading material. Other items covered in these work sheets are: vocabulary, definitions, word attack skills, writing skills, spelling and application of terminology to the trade area.

Oral language development exercises directed by the instructor constantly reinforce the concepts presented. Students have an opportunity to utilize and develop the technical vocabulary needed in their trade by interaction among themselves, the instructor and tutors. The Bilingual dimension is specifically directed at concept and vocabulary development.

The students are directed to utilize supplementary materials available through the Learning Resource Center to reinforce each area as they progress in the module. Audio visuals are utilized to introduce subject matter. They are also accessible to the students to be used on an individual basis.

IV. EVALUATION

The students are evaluated by the instructors as to their progress in language and in the course content area through the pre-test, work sheets, check list and a post test. Individual student profiles and folders are kept on record to check on student progress at all times. Oral development skills are assessed individually.

Students go through the following process in utilizing the modules:

Pre-test (Students scoring 85% or below must complete the entire module. Those scoring above 85% may go on to the next module).

Reading of instruction sheet
Information sheet
Series of written and oral exercises
Oral evaluation
Post test (oral and written)
Recycling, if needed (Students scoring 85% or below on post-test are recycled through module in designated weak areas. See coding system.)

V. MODULE OUTLINE

3.0 Cells

3.1 Definition of a cell

3.2 Function, shapes and sizes of cells

3.3 Basic structure of a cell

3.4 Growth and Reproduction of a cell

3.5 Tissues and organs formed by cells

STUDENT OBJECTIVES

After completing this module the student will be able to:

3.1 Define a cell as the basic unit of life

3.1.1 Define multicellular and give an example of a multicellular animal

3.1.2 Define unicellular and give an example of a unicellular animal

3.2 List the four ways a cell differs from each other

3.2.1 Name the substance that all cells are composed of

3.3 Draw the structure of a cell and explain each part and its function

3.4 Describe the proper conditions in order for a cell to grow and reproduce.

3.4.1 Define metabolism and name its two parts

3.4.2 Define anitosis

3.4.3 Define mitosis

3.5 Explain how cells group together to form tissues

3.5.1 Define a tissue and give three examples

3.5.2 Define an organ and how it is formed

3.5.3 Name three important organs in the human body

PRETEST FOR CELLS

1. What is a cell?

2. What does unicellular mean?

3. What does multicellular mean?

4. What is the function of the nucleus?

5. What is an amoeba?

6. What makes up organs?

7. What substances are cells composed of?

8. What are some important organs?

9. What is the difference between amitosis and mitosis?

10. What are some of the important types of tissues in your body?

Instructions:

In this selection you will read about cells. Later you will read some fascinating things about the structure and function of cells. Below is a list of words which are important in this article. Read each word carefully.

Instrucciones:

En esta selección vas a leer de células. Mas tarde vas a leer algunas cosas fascinantes sobre la estructura y función de células. Abajo sigue una lista de vocabulario que es importante en este artículo. Lee cada palabra cuidadosamente.

Vocabulary	Vocabulario
cells	células
amoeba	amiba
unicellular	unicelular
mass	masa
bacteria	bacteria
multicellular	multicelular

Keep the following questions in mind as you read this article.
Recuerda las siguientes preguntas al leer este artículo.

1. What do you have in common with bacteria?
   ¿Qué tienes en común con bacteria?

2. What is a cell?
   ¿Qué es una celula?

3. What is an amoeba?
   ¿Qué es un amiba?

4. What does unicellular mean? multicellular?
   ¿Qué significa unicelular? multicelular?

5. What are the characteristics of a cell?
   ¿Qué son las características de una célula?

What Do Humans Have In Common With Bacteria?

1. Have you ever wondered what you and bacteria might have in common? The fact is that all living things have something in common. Al. living things such as mosquitos, bacteria, giraffes, trees and men are made up of cells. A cell is the basic unit of life. Some animals and some plants consist of only one cell.

2. An amoeba is an animal that is composed of one cell. It is said to be unicellular. Uni comes from uno Spanish and Latin which means one. An amoeba has no particular shape; it looks like a flat jelly-like mass that changes in shape as it moves. Bacteria are also unicellular. As you know, bacteria are round, rod shaped or shaped like cork screws.

3. Most living things are made up of many different cells. The body of a man has many billions of cells. Man is said to be multicellular because he is composed of many cells. Most cells are so small that they can be seen only under a microscope. It would take approximately 50,000 of your blood cells to fill this tiny square □. Millions of cells make up the skin on your middle finger.

4. We can say that there are many types of cells that make up the human body. They differ in size, shape, structure, and their particular job. For example, before you can read the next line in this reading, the nerve cells in your eyes take the message to your brain in order for your eyes to move from one line to the next. Your brain records the message sent to it by the nerve cells. Muscle cells, that are part of the eye balls permit the eyes to shift across this page.

5. There are many different types of cells but almost all cells have something in common. A cell is alive. It "breathes, eats, and gets rid of waste." It grows and reproduces (multiplies) and in time it is destroyed and replaced by cells of the same kind.

6. In the next reading you will see exactly what cells look like under a microscope.

¿Qué Tienen en Común los Humanos Con Bacteria?

1. Te has preguntado qué tienes en comun con bacteria? Todos los seres vivientes como mosquitos, bacteria, girafes, árboles y hombres son compuestos de células. Una célula es la unidad básica de vida.

2. Un amiba es un animal de una célula. Se dice que es unicelular. Uni viene de el idioma español y latín y significa uno. Un amiba no tiene forma particular; parece galetina que se cambia de forma al moverse. Bacteria también es unicelular. Ya sabes que hay bacteria redonda, en forma de cigarillo o bastoncillo y de sacacorchos.

3. Casi todos las seres vivientes están compuestas de muchas células distintas. El cuerpo humano tiene billones de células. El hombre es multicelular porque está compuesto de muchas células. Células son tan pequeñas que se pueden ver solamente con un microscopio. Approximadamente 50,000 células de sangre caben en este pequeno cuadro. □ Millones de células componen el cutis de un dedo de tu mano.

4. Muchos tipos de células componen el cuerpo humano. Estas varean en tamaño, forma, estructura, y su funcción. Por exemplo, antes de que puedas leer el siguiente renglón de lectura, la célula nerviosa en tus ojos transmite el mensaje al cerebro para que tus ojos puedan moverse de un lado al otro. Tu cerebro grava el mensaje recibido de las células nerviosas. Células musculares que son parte del globo del ojo permiten a los ojos que se muevan de un lado de la página al otro.

5. Hay muchos tipos de células pero todas tienen algo en común. Células tienen vida, respiran, se alimentan, y eliminan. Células crecen y se multiplican y con el tiempo se destruyen y son reemplazadas por otras células del mismo tipo.

6. En la siguiente lectura verás qué parecen las células debajo del microscopio.

Find The Answers 3.1

1. A cell

   A. is bacteria
   B. is the basic unit of life
   C. lives off mosquitos
   D. is related to bacteria

2. The word in paragraph 2 that means one is _____.

3. The words in paragraph 2 "flat jelly-like mass" refer to _____.

4. The story does not say so, but it makes you think that

   A. Without cells all living things would die
   B. A larger animal has less cells than a smaller animal
   C. Humans are made of round shaped cells

5. Nerve cells in your eyes

   A. Help you if you need glasses
   B. Carry messages to your brain
   C. Are all unicellular

6. All living things are made of cells.

   Yes No , Does not say

7. On the whole this story is about

   A. How cells are made
   B. Living things and cells
   C. Different shapes of bacteria

In the lists below circle the correct spelling of each word.

1.	unicelular	unicellular	uniceluler
2.	bacterea	backteria	bacteria
3.	cells	celles	cels
4.	nerve	nurve	nerv
5.	musle	mussle	muscle
6.	microscop	micrascope	microscope
7.	breathee	breath	breathe
8.	compozed	composed	cumposed
9.	strukture	strukteur	structure
10.	amoeba	ameba	omeoba

Match the following by choosing the best answer

_____bacteria	A. basic unit of life
_____amoeba	B. one-celled
_____unicellular	C. shaped like balls, rods or corkscrews
_____multicellular	D. an animal composed of one cell
_____cell	E. many-celled

Fill in the blank with the word you think belongs without looking back at the original article.

An amoeba is an _____that is composed of _____cell. It is said _____be unicellular. Uni comes _____ uno which means one. _____amoeba has no particular _____; it looks like a _____ jelly-like mass that _____in shape as it _____. Bacteria are also unicellular. _____you know, bacteria are _____like balls, rods or _____.

Complete each sentence by choosing the correct term from the list provided.

cells	mass	rod
amoeba	bacteria	unicellular
brain	minute	multicellular
		magnified

1. A unicellular animal with a jelly-like shape is called a _____.

2. _____are the basic unit of life.

3. _____is another word for extremely small.

4. A vital organ of the body which records messages sent to it is the _____.

5. _____has three basic shapes and is pathogenic or non-pathogenic.

6. When an object is _____it is said to be enlarged.

7. A pathogenic bacteria that causes typhoid is _____shaped.

8. Many celled is _____.

9. The opposite of millions or many cells is _____.

Answer the following items: 3.1

1. What is meant by unicellular and give an example.

2. What is meant by the basic unit of living matter?

3. What is meant by multicellular?

4. What do you have in common with bacteria?

5. What are bacteria shaped like?

6. Explain how cells enable you to read information.

Answer the following items:

1. What is meant by unicellular and give an example.

2. What is meant by the basic unit of living matter?

3. What is meant by multicellular?

4. What do you have in common with bacteria?

5. What are bacteria shaped like?

6. Explain how cells enable you to read information.

Instructions:

In this information sheet you will read about what cells look like. You will understand the information sheet better if you check the vocabulary list. If you don't understand the information sheet, please ask for help. We want you to succeed.

Instrucciones:

En esta página de información vas a leer acerca de que parecen células. Comprenderás esta página de información si leyes bien la lista de vocabulario. Si tienes alguna pregunta procura ayuda. Queremos que tengas éxito.

Vocabulary	Vocabulario
cell	célula
minute	demasiado pequeño
function	función
size	tamaño
shape	forma
structure	estructura
muscle cell	célula muscular
nerve cell	célula de nervios
skin cell	célula de la piel

Keep this information in mind while you are reading the information sheet.
Recuerda esta información al leer la página de información.

1. Cells differ in size, shape and function.
   Células se diferencian en tamaño, forma, y función.

2. There are many different types of cells.
   Hay muchas clases diferentes de células.

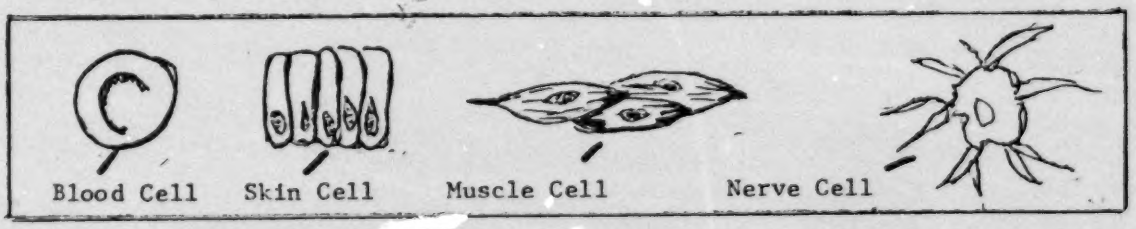
3. All cells are composed of the same substance.
   Todas las células estan compuestas de la misma substancia.

4. Cells are said to be minute or extremely small.
   Células son demasiado pequeñas.

1. From what you have read you know that cells can be seen only under a microscope. Cells are said to be <u>minute</u> or extremely small. To give you an idea of how difficult it is to see a cell, we will compare a cell with an ant. Under a special microscope called an electron microscope, an ant can be magnified or enlarged 200,000 times. This ant would be one half a mile long under this special microscope. But even with such great magnification you still would not be able to see some of the very small or detailed parts of a cell if it were also enlarged 200,000 times.

2. There are many different shapes, sizes, structures and functions of cells. Among the smallest of cells are the bacteria cells. The larger an animal, the more cells it is composed of. For example, an elephant does not have larger cells than a mouse, it simply has trillions more in number. Some bacteria cells are so minute that it would take about 60,000 to fill one inch of space on this page.

3. Cells also come in many different shapes. To give you an idea of the great variety of shapes look at the illustrations below.



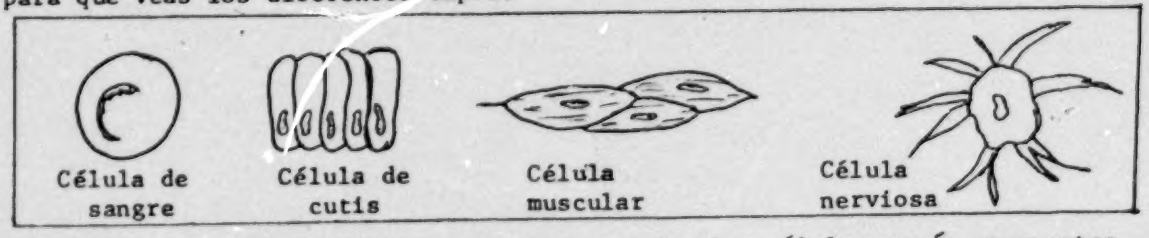
4. Cells differ in structure but all cells are composed of the same substance. You will read about their substance and its importance in the next reading.

¿Cómo Parecen las Células?

1. Ya sabes que células se pueden ver solamente con un microscopio. Células son demasiado pequeñas. Para darte un idea de lo difícil que es ver una célula, compararemos una célula con una hormiga. Con un microscopio especial llamado electron, una hormiga se puede magnificar 200,000 veces. Esta hormiga se vería media milla de larga con este microscopio especial. Con la misma magnificación de una célula, todavía no podrías ver algunos de los detalles de la célula.

2. Hay muchas diferentes formas, tamaños, estructuras y funciones de células. Entre las más pequeñas son las células de bacteria. Entre más grande el animal, más células tiene. Por exemplo, un elefante no tiene células más grandes que un ratón, solamente tiene muchas más células. Algunas células de bacteria son tan demasiado pequeñas, que unos 60,000 cupieran en una pulgada de espacio en esta página.

3. Células tambien tienen diferentes formas. Mira los siguientes dibujos para que veas los diferentes tipos.



4. Células varean en su estructura pero todas las células están compuestas de la misma materia. En la siguiente lectura leerás de la estructura de células y de su importancia.

Find The Answers.

1. Minute cell means

   A. large
   B. harmful
   C. extremely small
   D. enlarged

2. The word in paragraph 2 that means enlarged is _____.

3. The words "are so minute" in paragraph 2 refer to the word_____.

4. The story does not say so, but it makes you think that

   A. Cells can be seen when you look into a mirror.
   B. Men's cells are no larger than a mouse's cells.
   C. All cells are alike.

5. Cells differ in structure but are composed of the same substance.

   Yes No Does not say

6. On the whole, this story is about

   A. Cells and their size, shape and structure.
   B. Different types of microscopes.
   C. Elephants and cells.

7. Why must someone who works with hair know about cells.

   A. Skin and other parts of the human body are made of cells.
   B. Cells must be kept clean in order for them to survive.
   C. Cells affect your daily life.

Choose the word or words that belong in each numbered space. Then write the word(s) in the space provided to complete the sentence.

_____1. Cells are _____and can be seen only under a microscope.

_____2. Cells can be found in many different _____and shapes.

_____3. Cells also differ in _____and _____.

_____4. Cells are composed of ~~the~~ _____structures.

_____5. An elephant _____ _____ have more cells than a mouse.

_____6. Another word for magnify is to _____.

_____7. Among the smallest cells are the _____cells.

_____8. _____blood cells are _____in shape.

_____9. Skin cells are _____in _____.

After you have read the information sheet, write the word you think belongs in in the blank space.

Cells are said to be _____or extremely small. To _____ you an idea of _____difficult it is to _____a cell, we will _____a cell with a _____. Under a special microscope _____ an electron microscope, an _____can be magnified or _____ 200,000 times. This ant _____be one half a _____long under this special_____. But even with such _____magnification, you still would _____able to see some _____the very small or _____parts of a cell _____it were also enlarged _____ times.

Complete each word by adding the letter of each blank space. Write a definition.

1. __ __cro__ __op__ _____

_____

2. m__ __ut__ _____

_____

3. el__ __tr__n _____

_____

4. s__ru__t__r__ _____

_____

5. f__nc__ __ __n _____

_____

Answer the following questions: 3.2

1. In what way do cells differ?

2. Name three types of cells and describe their shape.

3. What does the word minute mean?

4. Why can cells be seen only under a microscope?

5. How can we compare the size of a cell to an ant.

Instructions:

In this information sheet you will read about cells and their structure. A vocabulary list is provided below. Please check each word carefully before proceeding to the reading.

Instrucciones:

En esta página de información vas a leer de células y su estructura. Abajo se incluye una lista de vocabulario. Lee cada palabra cuidadosamente antes de seguir con la lectura.

Vocabulary	Vocabulario
cells	células
basic	básico
structure	estructura
substance	sustancia
protoplasm	protoplasma
nucleus	núcleo
reproduction	reproducción
heredity	herencia
characteristics	características
cytoplasm	citoplasma
energy	energía

Keep the following questions in mind as you read the information sheet.
Recuerda las siguientes preguntas al leer la página de información.

1. What is a cell?
   ¿Qué es una célula?

2. What substance are cells composed of?
   ¿De qué sustancia se componen las células?

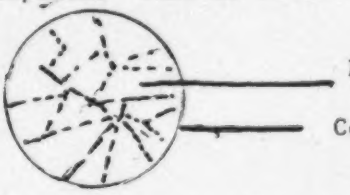
3. What are the structures found in protoplasm?
   ¿Cuáles estructuras se encuentran en el protoplasmo?

4. What is the function of the nucleus?
   ¿Cuál es la función del núcleo?

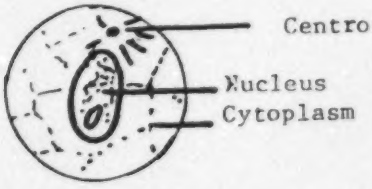
5. What is cytoplasm and what is its function?
   ¿Qué es citoplasma y que es su función?

The Basic Structure Of A Cell

1. You have read that cells are what all living things are composed of. A cell is the basic unit of life. You also know that cells come in many sizes, and shapes. Cells have different structures but all are composed of the same substance. This substance is jelly-like in nature. It is called protoplasm. Food and water are stored in protoplasm. A cell is like a small container of protoplasm. This is an enlarged picture of a cell.



2. The jelly-like substance contains parts that are vital or important in order to keep a cell alive. Below is a diagram of a cell.



3. The nucleus is the center that controls and directs the cells' activities. The nucleus affects reproduction of the cell. It is the round body near the middle or center of the cell. The nucleus determines heredity. Heredity is the passing on of characteristics from the parent to the offspring. It makes a cow give birth to a cow instead of a cat or other animal. It determines the color of your eyes, hair, skin, shape of your hands and thousands of other characteristics. The nucleus also produces the protoplasm's food in order to keep a cell alive.

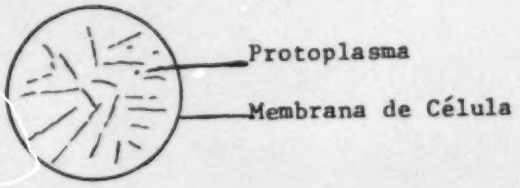
4. The cytoplasm is mostly water. It makes up the remainder of the cell. It produces the energy needed to keep a cell alive. The cytoplasm also dissolves cells after they die.

5. The centrosome, like the nucleus, affects the reproduction of the cell. The cell membrane encloses the entire cell like a shell on a peanut. It permits substances to enter and leave the cell.

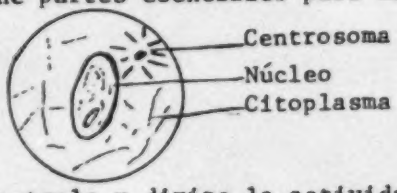
6. Now that you understand the basic structure of a cell it is important to read about how a cell grows and reproduces.

La Estructura Básica de la Célula

1. Ya sabes que todas cosas vivientes están compuestas de células. La célula es la unidad básica de la vida. También sabes que células vienen en muchos tamaños y formas. Células tienen diferentes estructuras pero todas contienen la misma sustancia. Esta sustancia es como galetina y se llama protoplasma. Agua y materias alimentacias se guardan en la protoplasma. Una célula es como un receptáculo de protoplasma. Abajo sigue un dibujo de la célula.



2. La sustancia galetina contiene partes esenciales para mantener la célula viva. Mira el dibujo que sigue.



3. El núcleo es el centro que controla y dirige la actividad de la célula. El núcleo afecta la reproducción de la célula. Este es de forma redonda y se encuentra en el centro de la célula. El núcleo determina la herencia. La herencia refiere a las características que son pasados de padre a hijo. Eso es lo que hace a una vaca parear a un becerro en vez de a un gato u otro animal. Esto determina el color de tus ojos, tu pelo, tu piel, el tamaño de tus manos y miles de otras características. El nucleo también produce el alimento de la protoplasma para mantener vivas a las células.

4. La citoplasma es casi completamente agua. Esta compone lo demás de la célula. Esta produce la energía necesaria para mantener vivas a las células. La citoplasma disuelve las células después que mueren.

5. La centrosoma, como el núcleo, afecta la reproducción de la célula. La membrana celular contiene toda la célula como la cáscara de un cacahuate. La membrana permite que sustancias entren y salgan de la célula.

6. Ahora que comprendes la estructura básica de la célula es importante que leas como crece y se reproduce la célula.

Find The Answers 3.3

1. What are all living things composed of?

   A. germs
   B. cell
   C. blood
   D. bacilli

2. The word in paragraph 1 that means basic unit of life is _____.

3. The words "passing on of characteristics" in paragraph 3 refer to the word _____.

4. The story does not say so, but it makes you think that

   A. The centrosome affects the color of your eyes.
   B. The cytoplasm is a solid substance.
   C. Living things cannot grow without cells.

5. The nucleus affects reproduction of the cell.

   Yes No Does not say

6. On the whole this story is about

   A. The centrosome and its function.
   B. The different parts of the cell.
   C. Heredity

7. How does the nucleus keep a cell alive?

   A. By enclosing the entire cell.
   B. By producing the protoplasm's food.
   C. By producing energy.

Fill in the spaces with the correct word from the list below.

energy	centrosome	cytoplasm
protoplasm	nucleus	heredity
substances	cell	water
alive		

1. The centrosome, like the _____, affects the reproduction of the cell.

2. The _____is mostly water.

3. The cytoplasm produces _____needed to keep the cell alive.

4. The _____control heredity.

5. _____determines the color of your eyes, hair, skin and other characteristics.

6. A cell is like a small container of _____.

7. A _____is the basic unit of life.

8. Food and _____are stored in protoplasm.

9. The cell membrane permits _____to enter and leave the cell.

10. The nucleus produces the protoplasm's food in order to keep a cell _____

Circle the correct word in parenthesis. 3.3

1. Cells are the basic units of (lifes, lives).

2. Nucleus affects reproduction (of, off) the cell.

3. The nucleus produces food in order (to, too) keep a cell alive.

4. The cell membrane permits substances to enter and (leave, leaf) the cell.

5. The heredity determines the color of (you're, your) eyes, hair and skin.

6. Cells (are,our) composed of the same substance.

Read each sentence below and indicate whether it is true T or false F.

_____1. Cells are all the same size.

_____2. Centrosome produces energy.

_____3. Nucleus determines heredity.

_____4. Cytoplasm dissolves cells after they die.

_____5. Cytoplasm is mostly water.

Place the proper letter for each blank to correctly spell the word.
Rewrite any word which you get wrong. Also give a definition for each word.

1. __ells _____

_____

2. __ood _____

_____

3. cy__op__asm _____

_____

4. en__rg__ _____

_____

5. __uc__eu__ _____

_____

6. h__r__d__t__ _____

_____

7. pro__opl__sm _____

_____

8. ce__tr__so__e _____

_____

9. mem__ran__ _____

_____

10. __tr__ct__re _____

_____

Answer the following questions:

1. What is a cell?

2. What substance is jelly-like in nature?

3. Describe fully the nucleus and its function.

4. What does heredity determine?

5. What does the cytoplasm do?

Instructions:

In this selection you will read about cell growth, reproduction and death. It is important that you understand the basic function of cells so that you can better comprehend the anatomy and physiology which is important in your trade.

Below is a list of words which are important in this article. Read each one carefully.

Instrucciones:

En esta selección vas a leer sobre el crecimiento, la reproducción y la muerte de células. Es importante que comprendas la función básica de células para que mejor comprendas la anatomía y fisiología que es importante en tu vocación.

Abajo sigue una lista de palabras que son importantes en este artículo. Lee cada palabra cuidadósamente.

Vocabulary	Vocabulario
oxygen	oxígeno
temperature	temperatura
cells	células
energy	energía
chemical process	proceso químico
metabolism	metabolismo
anabolism	anabolismo
catabolism	catabolismo
reproduces	reproduce
split	divide
unicellular	unicelular
anitosis	anitosis
multicellular	multicelular
complex	complejo
series	serie
mitosis	mitosis
process	proceso
nerve cells	celulas nerviosas
spinal cord	cuerda espinal

Keep the following questions in mind as you read this article.
Recuerda las siguientes preguntas al leer este artículo.

1. What conditions are necessary for a cell to have a normal life?
   ¿Cuáles condiciones son necesarias para que una célula tenga una vida normal?

2. Name and describe the two parts of metabolism
   Nombra y describe las dos partes de metabolismo.

.25

3. What is the difference between anitosis and mitosis?
¿Cuál es la diferencia de anitosis y mitosis?

4. What is the function of nerve cells and why are they considered fragile?
¿Cuál es la función de células nerviosas y porqué se consideran frágiles?

1. Cells need food in order to grow just like other living things. A cell will live a normal life and grow if it receives enough food, oxygen and water. It must also eliminate waste and must be supplied with a proper temperature. Cells are nourished and given energy by means of a very complex chemical process called metabolism. There are two parts to metabolism. When the cell absorbs or eats it is called anobolism. When it uses this food for a function like running or writing it is called catabolism.

2. A cell reproduces in two ways. It can split itself in half. This is the means of reproduction of a unicellular animal like bacteria. This splitting in half is called direct cell division or anitosis. For multicellular animals and plants where there are billions of cells, there is a more complex series of change. This type of cell reproduction is called mitosis. It is an indirect cell division.

3. Cells die just like all other living things. You lose about 3 billion cells in your body every minute. During the same time, another 3 billion new cells take the place of the ones lost by the process of mitosis. Dead skin cells peel off. An example is the peeling of skin after you are sun burned. Dead cells inside your body pass out with waste products. White blood cells last only about 13 days, red blood cells live a little longer. They live about 120 days.

4. Nerve cells last longer than any other type of cell. Nerve cells live about 100 years. Nerve cells can never be replaced. If they are destroyed, a person immediately becomes a vegetable. Nerve cells are found in your spinal cord. These cells allow you to speak, run, think, and reproduce.

Crecimiento, Reproducción y Muerte de las Células

1. Células necesitan alimento para poder crecer como otras cosas vivientes. Una célula tendrá una vida normal si recibe bastante alimento, oxígeno y agua. También tiene que eliminar y tener la propia temperatura. Células reciben alimento y energía por un proceso químico muy complejo que se llama metabolismo. Hay dos fases del metabolismo. Cuando la célula toma todo el alimento, esto se llama anabolismo. Cuando la célula utiliza este alimento para funcionar, como en el proceso de correr o andar, esto se llama catabolismo.

2. Una célula se reproduce en dos modos. Se puede dividir en la mitad. Este es el modo de reproducción de un animal unicelular como bacteria. Esta división se llama división directa o anitosis. Para animales y plantas multicelulares que tienen billones de células, hay otro serie de cambios mas complejo. Este tipo de reproducción celular se llama mitosis. Es una división indirecta.

3. Células mueren igual que otros seres vivientes. Tú pierdes como tres billones de células de tu cuerpo cada minuto. A la misma ves otras tres billones de células reemplazan a las que perdiste por el proceso de mitosis. Células de piel que mueren se caen como cuando te quemas con el sol. Células muertas dentro de tu cuerpo también se eliminan. Células blancas de sangre viven solamente por trece días; células rojas de sangre duran poco mas, como unos 120 días.

4. Células nerviosas duran mas que cualquier otro tipo. Células nerviosas viven como cien años. Células nerviosas nó se pueden reemplazar. Si se destruyen, la persona inmediatamente se hace como vegetal. Células nerviosas se encuentran en la cuerda espinal. Estas células te permiten que hables, corras, pienses y reproduzcas.

Find The Answers

1. When a cell absorbs or eats it is called

   A. Catabolism
   B. Anitosis
   C. Anobolism
   D. Metabolism

2. The word in paragraph 2 which means "not direct" is _____.

3. The words "can never be replaced" in paragraph 2 refer to the words_____

   _____.

4. The story does not say so, but it makes you think that

   A. Sun burned skin passes dead cells through waste products
   B. Nerve cells are the most important cells in your body
   C. Cells never die

5. Indirect cell division is called anitosis.

   Yes No Does not say

6. On the whole this story is about

   A. The way cells grow, how they reproduce and how they die.
   B. How cells reproduce
   C. Nerve cells and their function.

7. Which cells are formed in your spinal cord?
   (Check the story again)

   A. Nerve cells
   B. Red blood cells
   C. White blood cells

Look at the list of words below. If the word is spelled correctly circle the R. If the word is mispelled, circle the W and spell the word correctly.

R	W	anytosis	_____
R	W	nerve	_____
R	W	catabolism	_____
R	W	anabolism	_____
R	W	oxygen	_____
R	W	metabolism	_____
R	W	cemical	_____
R	W	products	_____
R	W	spinel	_____
R	w	anemal	_____

Select the correct term from the following list and place it next to the statement in parenthesis.

mitosis	anobolism	nerve cells
metabolism	anitosis	catabolism
white cells	red cells	dead skin cells

1. Direct cell division (_____).
2. Sun burned skin (_____).
3. Cells which last only about 13 days (_____).
4. Indirect cell division (_____).
5. When the cell absorbs or eats (_____).
6. Cells found in your spinal cord (_____).
7. Whencells use food for a function like running (_____).
8. Complex chemical process (_____).
9. Cells which live about 120 days (_____).

Underline a word on each line that means the same as the first word given.

1.	need	necessity	show	detain
2.	eliminate	apparent	expel	trade
3.	nourished	supply	expect	feed
4.	absorb	dislike	correct	consume
5.	indirect	front	roundabout	build
6.	destroy	demolish	wild	happy
7.	speak	spare	mild	say
8.	energy	trip	power	plains
9.	function	duty	right	steal
10.	reproduce	agree	multiply	strong

Answer the following questions:

1. What is direct cell division?

2. What happens to dead cells?

3. What is the function of the nerve cells?

4. Which cells live about 120 days?

5. What is indirect cell division?

Instructions:

In this information sheet you will read how cells are grouped together so they can perform a specific function. The vocabulary list will help you remember the important facts in this information sheet.

Instrucciones:

En esta página de información vas a leer acerca de como se agrupan células para poder llevar acabo su función específica. La lista de vocabulario te ayudará a recordar detalles importantes.

Vocabulary	Vocabulario
tissue	tejido
epithelial tissue	tejido epitelial
connective tissue	tejido conjuntivo
muscular tissue	tejido muscular
liquid tissue	tejido líquido
nerve tissue	tejido nervioso
organs	órgano
glands	glandular
cartilage	cartílago
bones	huesos
ligament	ligamento

Keep this information in mind while you are reading this information sheet.
Recuerda esta informacion al leer esta pagina de informacion.

1. Cells of the same type are grouped together to form tissues.
   Células del mismo tipo se agrupan para formar tejidos.

2. There are different types of tissues which are important to your body. They are: connective tissue, muscular tissue, liquid tissue, epithelial tissue, and nerve tissue.

   Hay diferentes tipos de tejidos que son importantes para tu cuerpo. Son: tejido conjuntivo, tejido muscular, tejido líquido, tejido epitelial, y tejido nervioso.

3. Two or more tissues are grouped together to form organs.
   Dos, o mas de dos tejidos se agrupan para formar órganos.

4. Organs are very important in order for your body to function properly. Examples are the heart, brain, lungs, kidneys, and glands.

   Órganos son muy importantes para que pueda funcionar el cuerpo propiamente. Ejemplos son, el corazón, el cerebro, los pulmones, los riñones, y las glándulas.

Groups of Cells form Tissues

1. You know that a cell is the basic unit of life or living matter. Every thing that is alive is composed of cells. It is very difficult to imagine how the many millions of cells work together to help us walk, think, digest, speak reproduce, and do the many other things that a human can do.

2. Cells group themselves according to types. For example, all the eye cells are grouped together and all the skin cells are also grouped together. Cells that are grouped together form tissues. Tissues such as eye tissues and brain tissues have specific functions.

3. There are different types of tissues. A connective tissue helps support or connect other tissues of the body. Examples of connective tissues are bones, cartilage, and ligament. Muscular tissues help you to move your body. Nerve tissues help carry messages to the brain. The nerve tissues are composed of nerve cells. They live about 100 years. Without nerve tissues you couldn't move, talk, or think. Nerve tissues are found in your spinal cord. Epithelial tissues serve to protect your body. They compose your skin which protects your body from cold, burns and diseases. Liquid tissues are the carriers of food and waste products. An example is blood.

4. Two or more tissues grouped together form organs. Organs perform very specific functions. Some important organs are the heart, brain, lungs, kidneys, and various glands.

1. Ya sabes que la célula es la unidad básica de la vida. Todo los seres vivientes están compuestos de células. Es muy difícil que imagines como las millones de células funcionan juntas para ayudarnos a andar, pensar, digerir, hablar, reproducir y hacer todas las cosas que puede hacer un ser humano.

2. Células se agrupan al segun su tipo. Por exemplo, todas las células de los ojos se agrupan y todas las células de piel también se agrupan. Células que se agrupan forman tejidos. Tejidos de ojo y tejidos de cerebro, como otros tejidos, tienen funciones especiales.

3. Hay tres tipos de tejidos. Un tejido conectivo ayuda a soportar o conectar a otros tejidos del cuerpo. Exemplos de tejidos conectivos son los huesos, el cartílago y ligamentos. Tejidos musculares ayudan a darle movimiento a tu cuerpo. Tejidos nerviosos ayudan a transmitir mensajes al cerebro. Los tejidos nerviosos son compuestos de células nerviosas. Estas viven como unos cien anos. Sin tejidos nerviosos no pudieras moverte, hablar, o pensar. Tejidos nerviosos se hallan en la cuerda espinal. Tejidos epiteliales sirven para proteger a tu cuerpo. Estos componen tu piel, cual protege a tu cuerpo de el frío, quemadas y enfermedades. Tejidos líquidos transportan al alimento y los materiales desperdicios. Un exemplo es la sangre.

4. Dos o mas tejidos juntos forman órganos. Órganos tienen funciones especiales. Algunos órganos importantes son el corazón, el cerebro, los pulmones, los riñones y varias glándulas.

Find The Answers

1. A connective tissue means what?

   A. heart
   B. spinal cord
   C. blood
   D. ligament

2. The word in paragraph 1 which means made up of is _____.

3. The words "tissues serve to protect your body" in paragraph 3 refer to the word _____.

4. The story does not say so, but it makes you think that

   A. Your entire body is made of some kind of tissues.
   B. Examples of organs are bones, cartilage, and ligament.
   C. Tissues are only found in your spinal cord.

5. Epithelial tissues are the carriers of food and waste products.

   Yes No Does not say

6. On the whole, this story is about

   A. Different nerves in our system
   B. Different kinds of cells and tissues.
   C. Different organs in our body.

7. What is the important function of the muscular tissues? (Check the story again)

   A. To help carry messages to the brain.
   B. To help move your body.
   C. To perform very specific functions.

Arrange the following list of words in alphabetical order starting with basic and ending with tissues.

1. tissues _____
2. organs _____
3. cell _____
4. liquid _____
5. muscular _____
6. basic _____
7. connective _____
8. brain _____
9. nerve _____
10. epithelial _____
11. lungs _____
12. kidneys _____
13. blood _____
14. skin _____
15. glands _____
16. heart _____
17. imagine _____
18. reproduce _____
19. eye _____
20. functions _____

Match:

_____nerve tissues	A. carriers of food and waste products
_____organ	B. where nerve tissues are found
_____muscular	C. help move your body
_____tissues	D. composed of nerve cells
_____epithelial tissues	E. compose your skin for protection
_____blood	F. heart, kidneys, lungs and brain
_____spinal cord	G. liquid tissue
_____liquid tissues	H. cells that are grouped together

Mark T for true and F for false 3.5

_____liquid tissues compose your skin

_____a type of organ is the brain

_____nerve tissues are found in your eyes

_____blood is an example of liquid tissue

_____muscular tissues help you move your body

_____nerve cells live a few hours

_____cells are grouped according to color

_____organs are two or more tissues grouped together

_____a connective tissue help support other tissues of the body

_____eye cells are grouped with skin cells

- - - -

Now that you have read the article on cells and tissues answer the following questions. Be sure to give a complete answer.

1. What is the function of muscle or tissue?

2. Define organs and give some examples.

3. What is the function of the liquid tissues?

4. Which tissues help carry messages to the brain?

5. What do the epithelial tissues protect you from?

POST TEST FOR CELLS

1. What is the difference between amitosis and mitosis?

2. What substances are cells composed of?

3. What does unicellular mean?

4. What is the function of the nucleus?

5. What is an amoeba?

6. What makes up organs?

7. What are some important types of tissues in your body?

8. What are some important organs?

9. What does multicellular mean?

10. What is a cell?

Vocabulary	Vocabulario
absorb	absorber
activity	actividad
amoeba	amiba
anabolism	anabolismo
amitosis	amitosis
bacteria	bacteria
basic	básico
cone	hueso
brain	cerebro
cartilage	cartílago
catabolism	catabolismo
cell	célula
characteristic	característico
complex	complicado
compose	componer
connective	conectivo
container	envase
control	control
cork	corcho
cytoplasm	citoplasma
diagram	diagrama
detail	detalle
dissolve	desolver
electron	electrón
eliminate	eliminar
energy	energía

Vocabulary	Vocabulario
enlarge	agrandar
extreme	extremo
flat	plano
food	alimento - comida
function	función
gland	glándula
heredity	herencia
human	humano
ligament	ligamento
magnify	manificar
mass	masa
metabolism	metabolismo
membrane	membrana
message	mensaje
minute	pequeño
mitosis	mitosis
muscle	músculo
multicellular	multicelular
nerve	nervio
nourish	nutrir
nucleus	núcleo
offspring	linaje
organ	órgano
oxygen	oxígeno
process	proceso
protoplasm	protoplasma
reproduce	reproducir

Vocabulary	Vocabulario
shape	hechura
size	tamaño
skin	piel
spinal	espinal
square	cuadro
structure	estructura
substance	substancia
temperature	temperatura
thing	cosa
tissue	tejido
unicellular	unicelular
unit	unidad